

**Status of the CLAIMS**

**1. – 33. (Canceled)**

**34. (New)** A system comprising:

a memory metal; and

a catalyst, wherein said catalyst is disposed on a first surface of said memory metal.

**35. (New)** The system of claim 34, further comprising a fuel-oxidizer mixture.

**36. (New)** The system of claim 35 wherein said fuel-oxidizer mixture is disposed on said first surface of said memory metal.

**37. (New)** The system of claim 35 wherein said fuel-oxidizer mixture is disposed on a second surface of said memory metal.

**38. (New)** The system of claim 35 further comprising a reaction initiator to commence a reaction of said fuel-oxidizer mixture.

**39. (New)** The system of claim 34 further comprising a heat source, wherein said heat source provides a sufficient amount of heat to said system to provide a self-sustaining reaction.

**40. (New)** The system of claim 34 wherein said memory metal comprises NITINOL.

**41. (New)** The system of claim 34 wherein said memory metal comprises a tube.

**42. (New)** The system of claim 34 wherein said memory metal comprises a wire.

**43. (New)** The system of claim 34 wherein said memory metal comprises a plate.

**44. (New)** The system of claim 34 wherein said catalyst is selected from the group consisting of palladium, platinum, and copper.

**45. (New)** The system of claim 35 wherein said fuel-oxidizer mixture is selected from the group consisting of hydrogen-oxygen, ammonia-oxygen, hydrocarbon vapor-oxygen, and alcohol vapor-oxygen.

**46. (New)** The system of claim 35 wherein said fuel-oxidizer mixture comprises a monopropellant.

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**47. (New)** A system comprising:  
a memory metal; and  
a fuel-oxidizer mixture, wherein said fuel-oxidizer mixture is disposed on a first surface of said memory metal.

**48. (New)** The system of claim 47, further comprising a catalyst.

**49. (New)** The system of claim 48 wherein said catalyst is disposed on said first surface of said memory metal.

**50. (New)** The system of claim 48 wherein said catalyst is disposed on a second surface of said memory metal.

**51. (New)** The system of claim 47 further comprising a reaction initiator to commence a reaction of said fuel-oxidizer mixture.

**52. (New)** The system of claim 47 further comprising a heat source, wherein said heat source provides a sufficient amount of heat to said system to provide a self-sustaining reaction.

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**53. (New)** A method comprising:  
providing a memory metal having a catalyst disposed thereon; and  
exposing said memory metal and said catalyst to a fuel-oxidizer mixture.

**54. (New)** The method of claim 53 further comprising initiating a reaction of said fuel-oxidizer pair using a reaction initiator.

**55. (New)** The method of claim 53 wherein the operation of exposing further comprises flowing said fuel-oxidizer mixture over said memory metal and said catalyst.

**56. (New)** The method of claim 53 wherein the operation of exposing further comprises applying said fuel-oxidizer mixture to said memory metal.

**57. (New)** The method of claim 53 wherein selection of at least one of: (1) choice of catalyst; (2) amount of catalyst; (3) choice of fuel-oxidizer; and (4) amount of fuel-oxidizer results in a non-sustaining reaction.

**58. (New)** The method of claim 57 further comprising applying heat so that said reaction is sustained.

**59. (New)** The method of claim 58 further comprising controlling said amount of fuel-oxidizer mixture so that a sum of heat applied and heat generated during said reaction balances loss of heat.

**60. (New)** The method of claim 53 wherein a reaction of said fuel-oxidizer mixture occurs in a transition temperature range of said memory metal.

**61. (New)** The method of claim 53 further comprising flowing air over said memory metal.

**62. (New)** The method of claim 61 further comprising ceasing exposure of said memory metal and said catalyst to said fuel-oxidizer mixture.